# NAD SERVICE MANUAL

# 906

## MULTI CHANNEL AMPLIFIER

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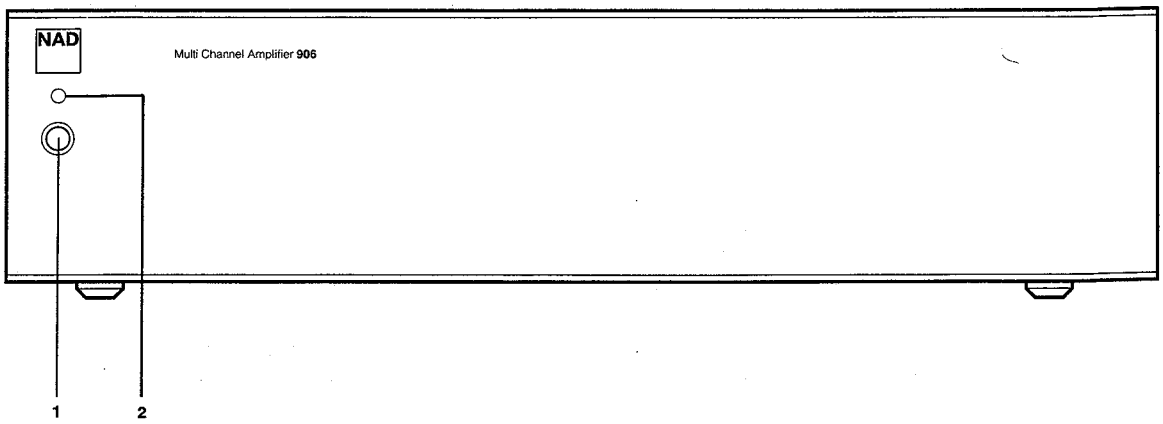
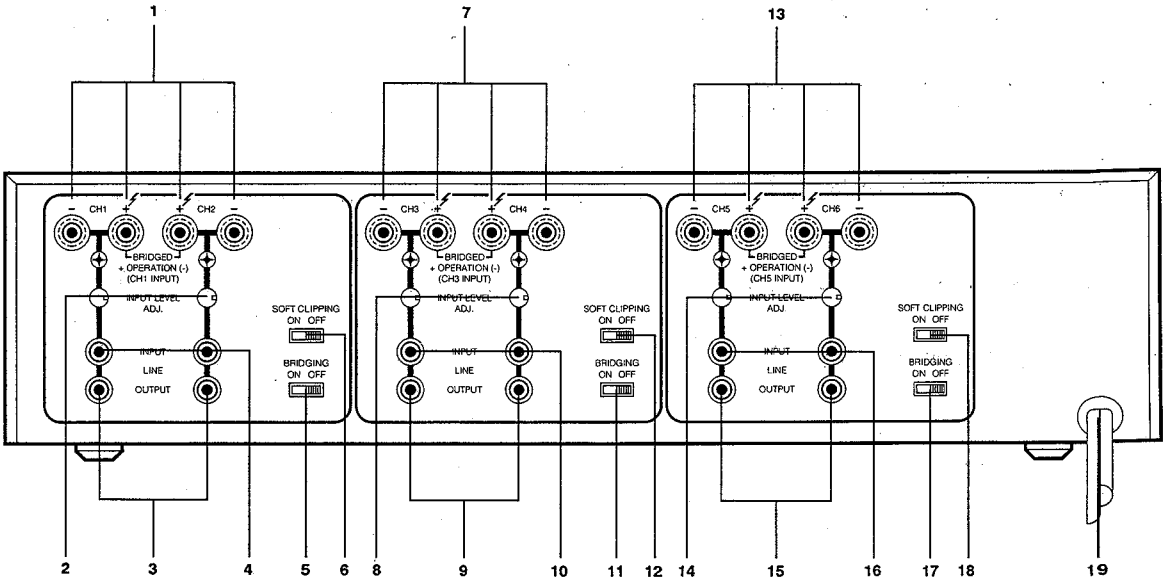
# FRONT/REAR PANEL VIEW

## FRONT PANEL




1. Power Button
2. Power LED

## REAR PANEL CONNECTIONS




| | | | |
|---|---|---|---|
| 1. Speaker Terminals | (CH 1, CH 2) | 13. Speaker Terminals | (CH 5, CH 6) |
| 2. Input Level Adj. | (CH 1, CH 2) | 14. Input Level Adj. | (CH 5, CH 6) |
| 3. Line Output | (CH 1, CH 2) | 15. Line Output | (CH 5, CH 6) |
| 4. Input | (CH 1, CH 2) | 16. Input | (CH 5, CH 6) |
| 5. Bridging On/Off | (CH 1, CH 2) | 17. Bridging On/Off | (CH 5, CH 6) |
| 6. Soft Clipping On/Off | (CH 1, CH 2) | 18. Soft Clipping On/Off | (CH 5, CH 6) |
| 7. Speaker Terminals | (CH 3, CH 4) | 19. AC Line Cord | |
| 8. Input Levels Adj. | (CH 3, CH 4) | | |
| 9. Line Output | (CH 3, CH 4) | | |
| 10. Input | (CH 3, CH 4) | | |
| 11. Bridging On/Off | (CH 3, CH 4) | | |
| 12. Soft Clipping On/Off | (CH 3, CH 4) | | |

# SPECIFICATION

Measured in accordance with EIA Standard RS-490 (IHF A -202)
NAD-906 Multi-Channel Amplifier

Continues RMS. power output into
8/4 ohms load, Both channels driven ..... > 30/35 W

Continues RMS. power output into
8 ohms load, (BRIDGED mode) ..... > 90 W

Rated distortion (THD. 20Hz. - 20kHz.) ..... < 0.04%

Slew factor ..... > 50

Slew rate ..... 35V / uSEC.

Damping factor (ref. 8 ohm, 1kHz) ..... > 100

Input impedence ..... 10k ohm // 220 pf

Input sensitivity (for 1W output) ..... 185 mV

(for rated power) ..... 1000mV

Voltage gain ..... 24.5 dB

Frequency responce (-3 dB) ..... < 10 Hz / 100kHz

(20 Hz - 20k Hz)..... < -0.2 dB

S/N Ratio (A-weighted) ..... > 100 dB

(un-weighted) ..... > 90 dB

THD. (ref. 250mW output) ..... < 0.04%

SMPTE IMP. (ref. 250mW output) ..... < 0.04%

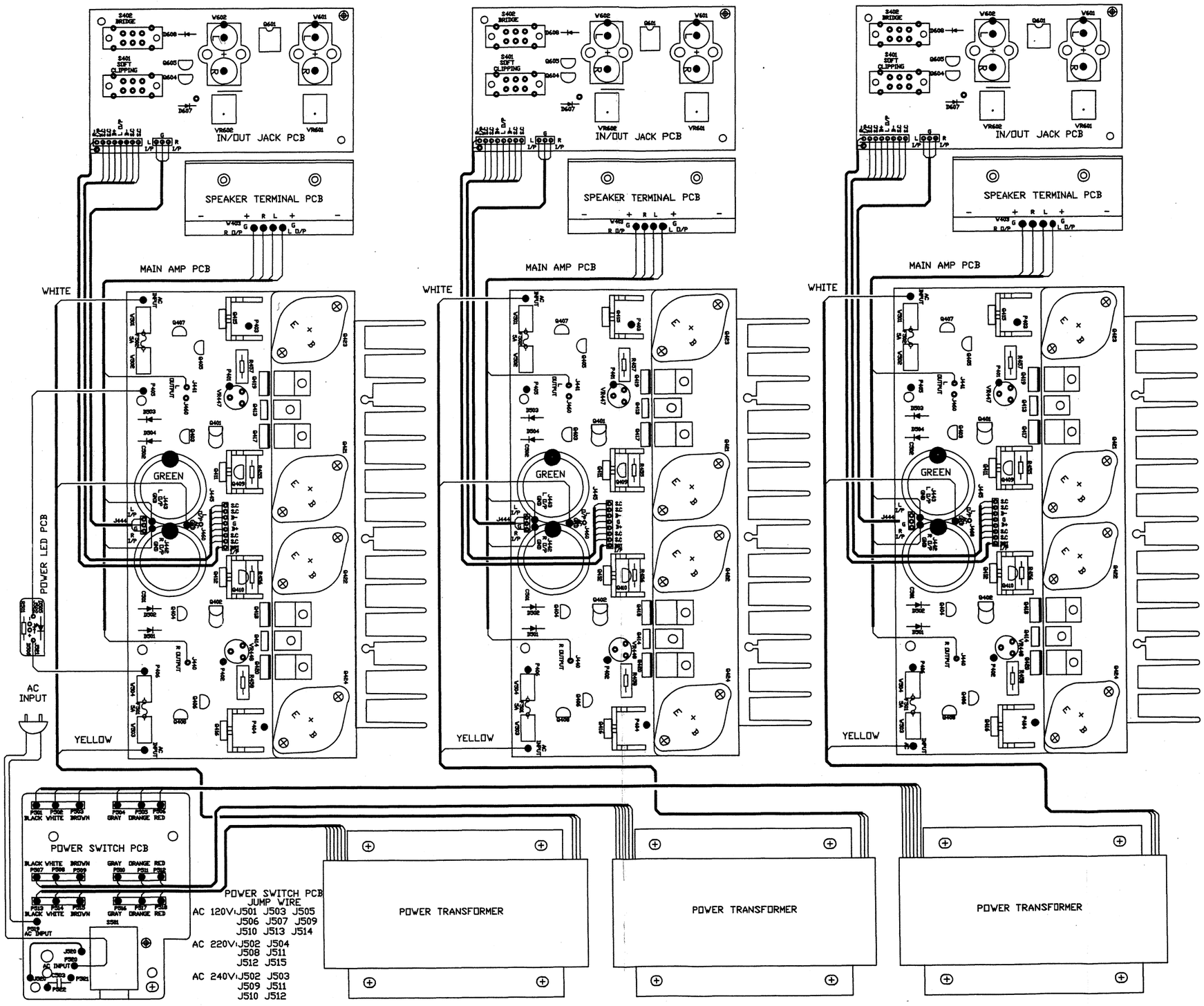
PHYSICAL SPECIFICATIONS
Width * Height * Depth ..... 435 * 108 * 381 mm

Net Weight ..... 13 kg

Shipping Weight ..... 14 kg

Specifications are those in effect at the time of printing. NAD reserves the right to change specifications

# WIRING DIAGRAM

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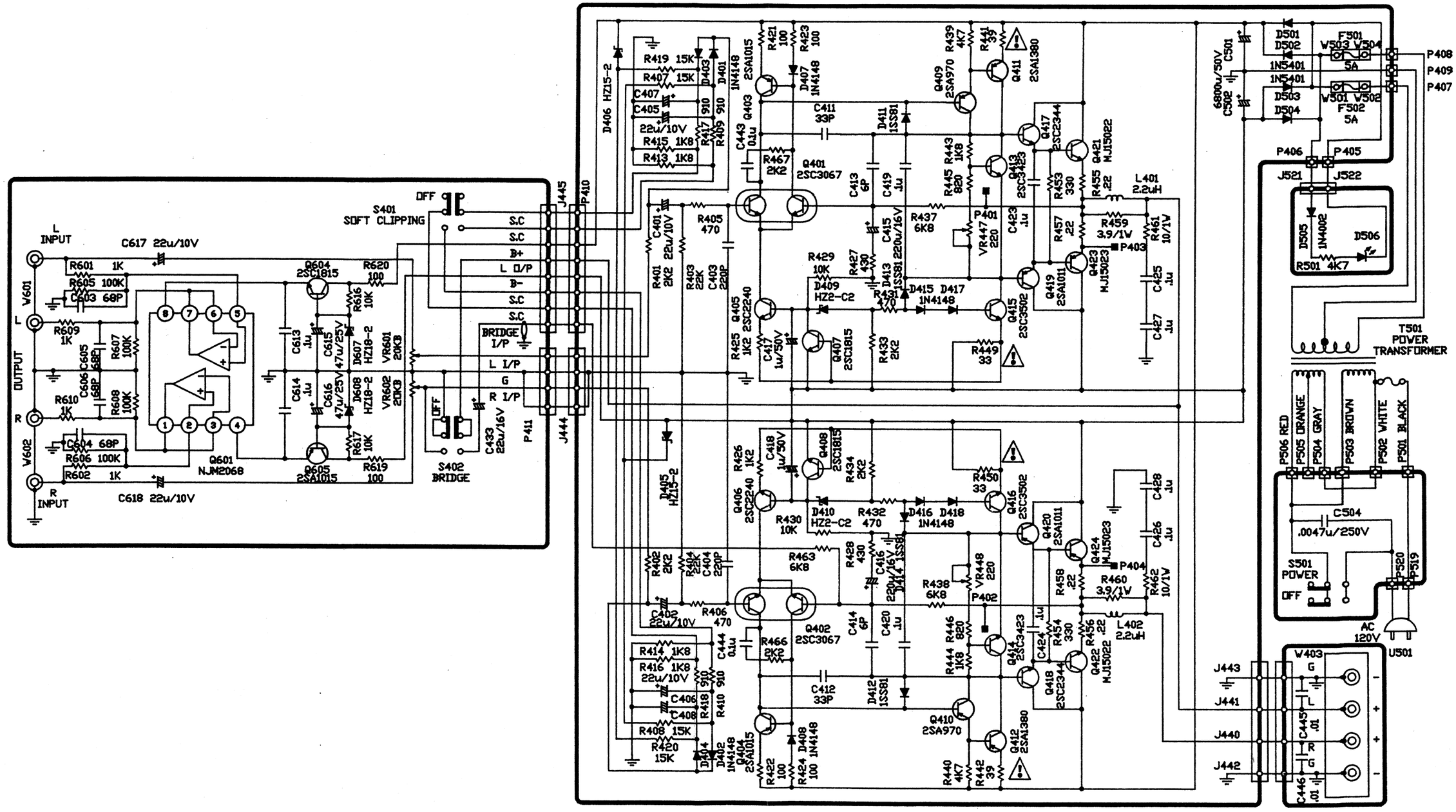
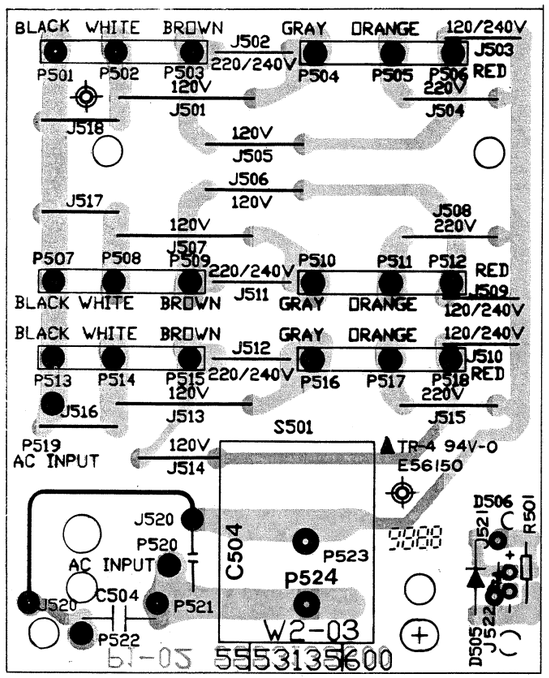
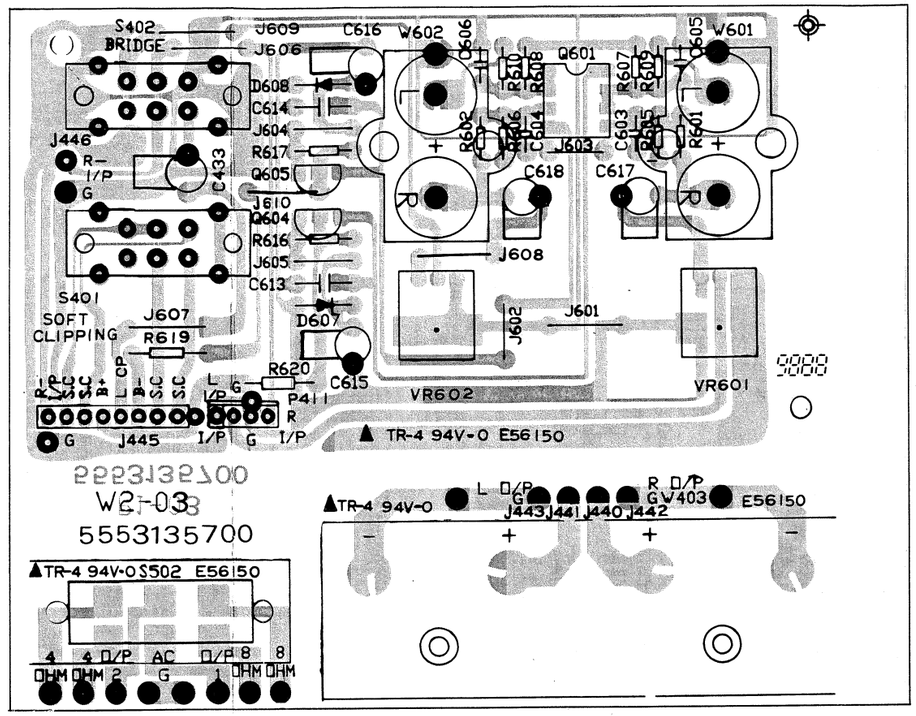
# SCHEMATIC DIAGRAM

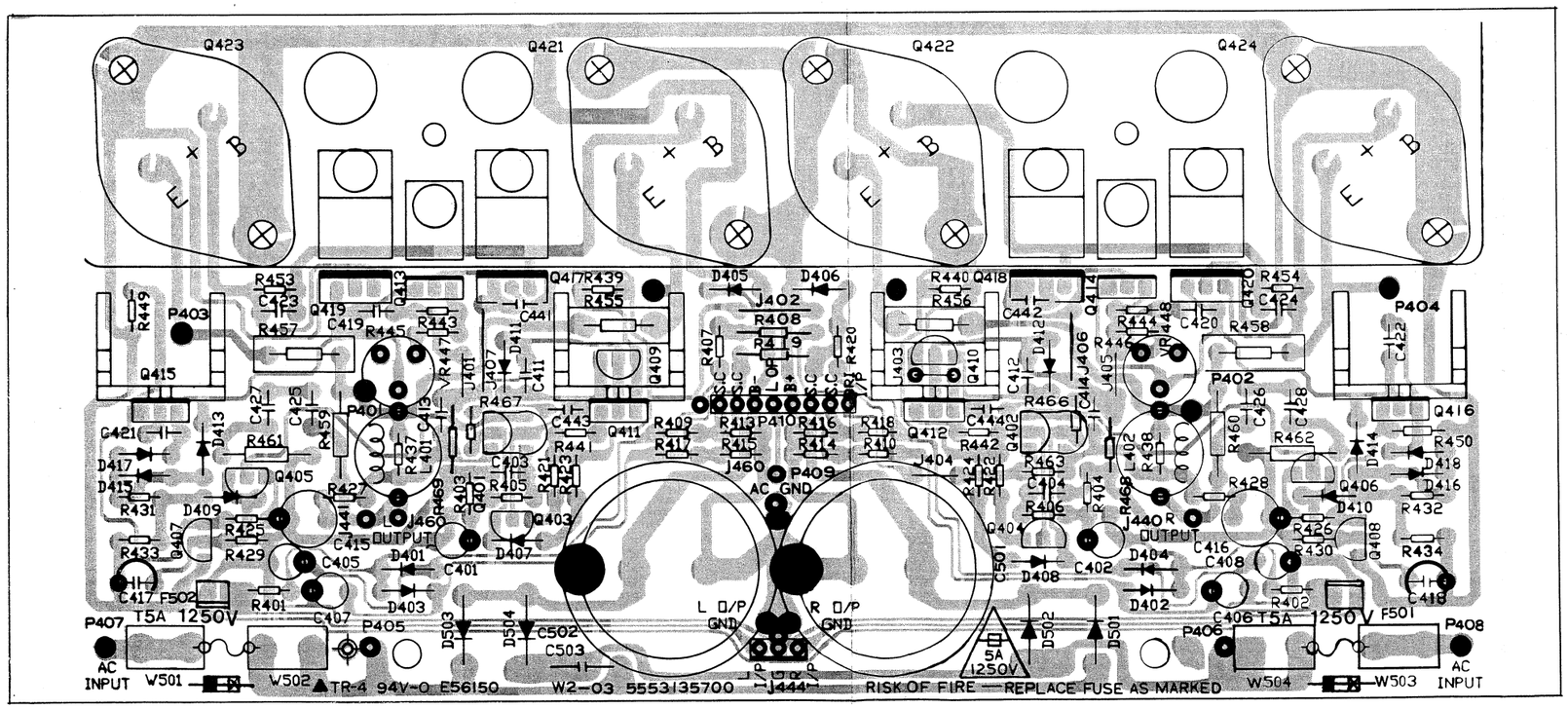



(c) NAD Electronics LTD. 1991

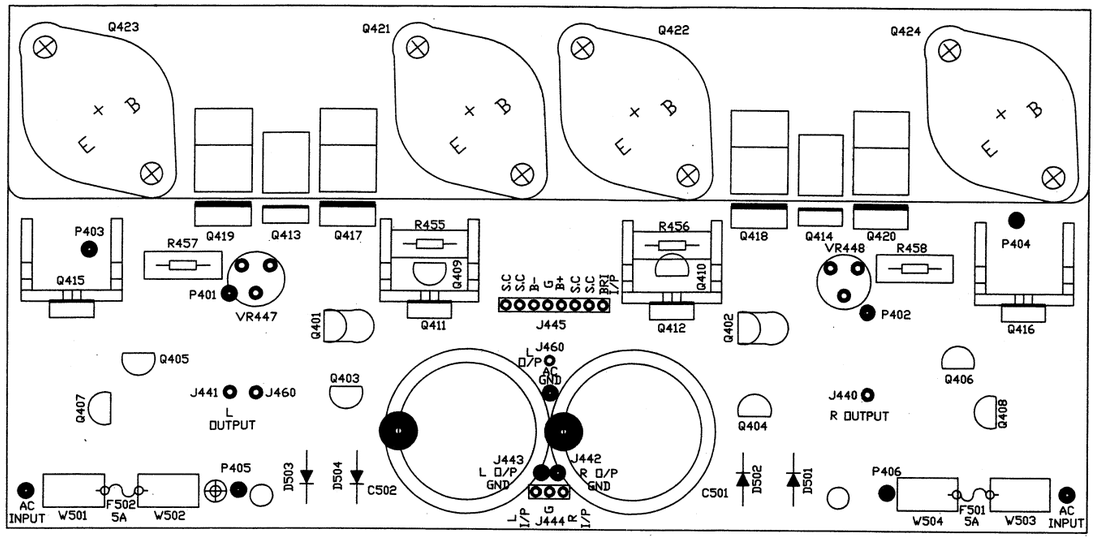
# PCB LAYOUT (PARTS SIDE)



# AMPLIFIER ADJUSTMENT




A. IDLE CURRENT ADJUSTMENT

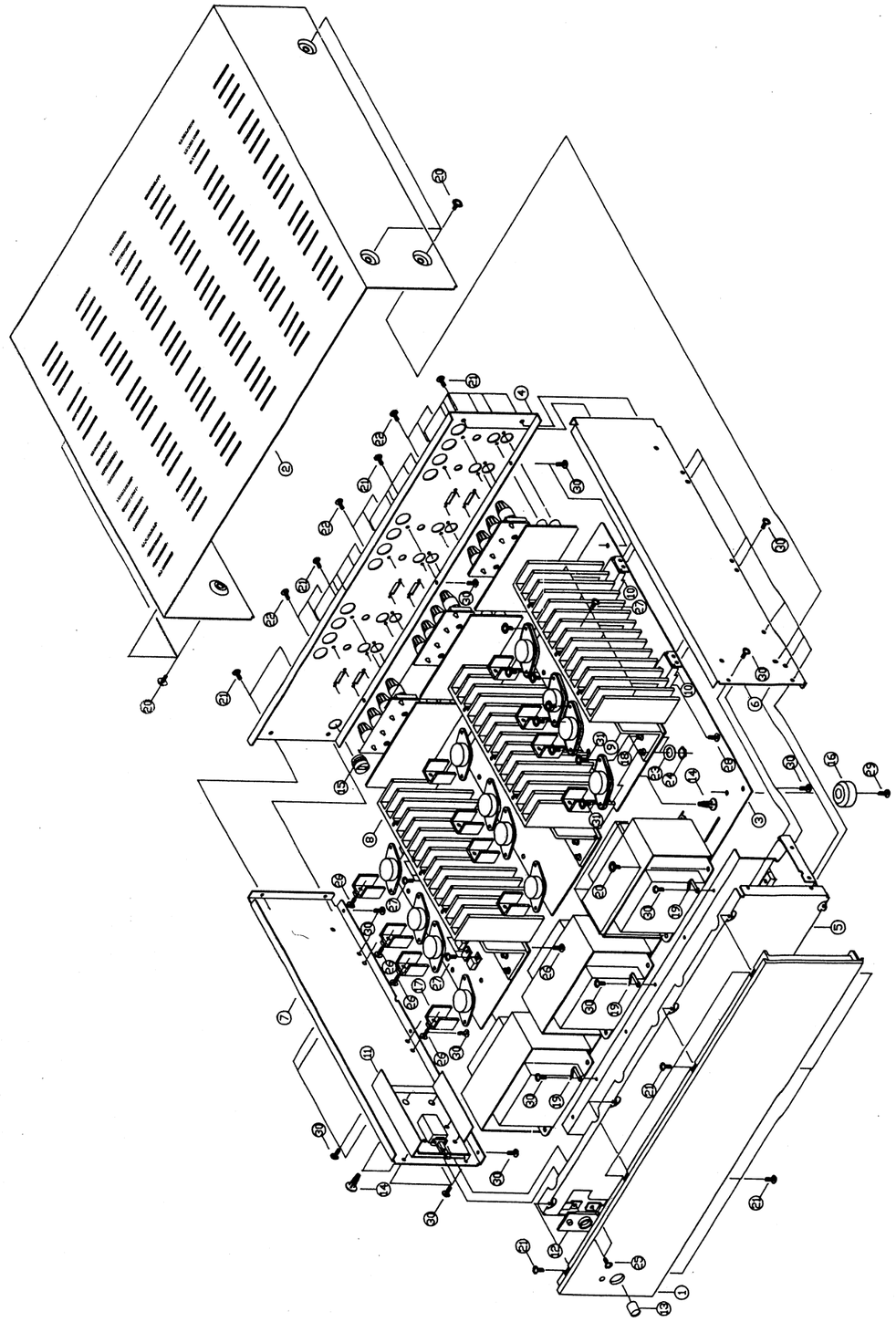
1. Connect DMM across P-401 (+) and P-403 (-), adjust VR-447 for reading of 5mV +/- 0.5mV DC.(without a load across the output terminals.)
2. Repeat, using P-402 (+) and P-404 (-), adjust VR-448.
3. Repeat above procedures for each amplifier module.

B. FINAL ADJUSTMENT

1. Leave power on minimum 5 minutes.
2. Repeat idle current adjustments.



# EXPLODED VIEW



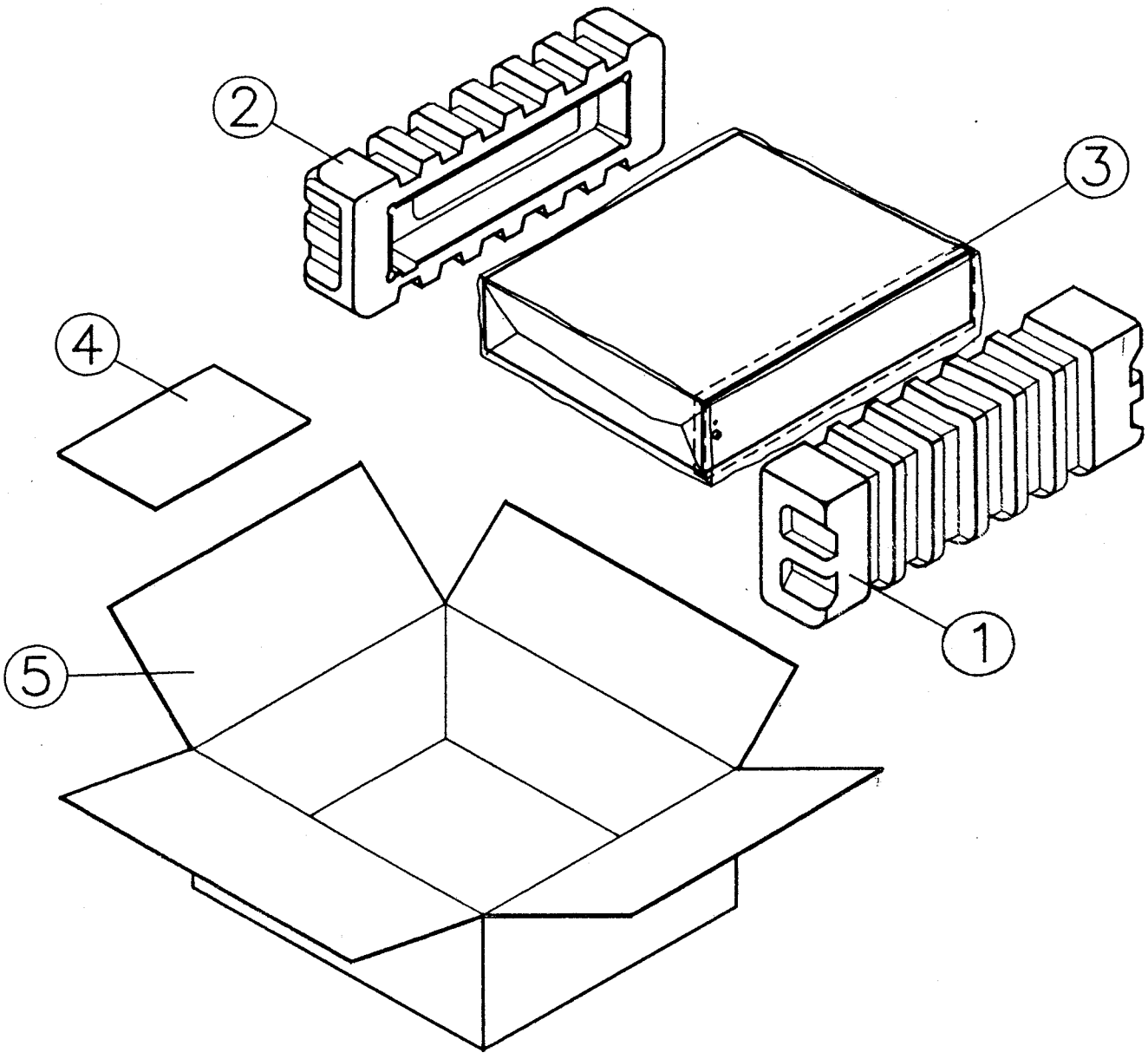
# EXPLODED PARTS LIST

| NO. | PART NO. | DESCRIPTION | Q'TY |
|---|---|---|---|
| 1 | 5541215000 | FRONT PANEL | 1 |
| 2 | 5541003200 | TOP COVER | 1 |
| 3 | 5547137500 | CHASSIS | 1 |
| 4 | 5547137700 | BACK PLATE | 1 |
| 5 | 5547137600 | TRS. BRACKET | 1 |
| 6 | 5547138000 | FRAME (R) | 1 |
| 7 | 5547137900 | FRAME (L) | 1 |
| 8 | 5545309600 | HEAT SINK | 3 |
| 9 | 5545309700 | HEAT SINK P | 3 |
| 10 | 5547137800 | HEAT SINK BRACKET | 2 |
| 11 | 5547533100 | POWER SW, BRACKET | 1 |
| 12 | 5542226100 | POWER BEZEL | 1 |
| 13 | 5541539000 | PUSH BUTTON | 1 |
| 14 | 5547530460 | HOLDER-PCB | 8 |
| 15 | 5547501200 | CORD BUSHING | 1 |
| 16 | 5547802120 | RUBBER FOOT | 4 |
| 17 | 5545306910 | HEAT SINK S | 12 |
| 18 | 5547528700 | TRANSISTOR WASHER | 24 |
| 19 | 5540100200 | WIRE CLAMP | 3 |
| 20 | 7190550003 | MACHINE SCREW M4.0x6 W/W Zn-BLK | 18 |
| 21 | 7033161156 | TAPPING SCREW M3x8 Zn-BLK | 30 |
| 22 | 7001120216 | MACHINE SCREW M2.5x4 Zn-BLK | 12 |
| 23 | 7101200302 | WASHER TOOTH LOCK M3.0, Zn | 24 |
| 24 | 7076170012 | NUT M3.0 Zn | 24 |
| 25 | 7001170612 | MACHINE SCREW M3.0x6 Zn | 2 |
| 26 | 7033161152 | TAPPING SCREW M3.0x8 TS2 Zn | 18 |
| 27 | 7033161452 | TAPPING SCREW M3.0x10 TS2 Zn | 39 |
| 28 | 7033251652 | TAPPING SCREW M3.0x12 TS2 Zn | 6 |
| 29 | 7000305022 | TAPPING SCREW M3.0x10 W/W TS2 Zn | 4 |
| 30 | 7033160652 | TAPPING SCREW M3.0x6 TS2 Zn | 39 |
| 31 | 7006171612 | MACHINE SCREW M3.0x12 W/SPW Zn | 24 |

| SYMBOL NO. | Q'TY | PARTS NO. | DESCRIPTION | SPECIFICATION |
|---|---|---|---|---|
| | 1 | 5090306051 | CHASSIS ASS'Y | |
| 3F01 | 1 | 5541539000 | PUSH KNOB | |
| 5B01 | 1 | 5547137700 | BACK PLATE | A1 |
| 5B01 | 1 | 5547137710 | BACK PLATE | C |
| 5B01L | 2 | 7033161156 | SCREW BRB M3.0x08 S-PC | |
| 5B01R | 2 | 7033161156 | SCREW BRB M3.0x08 S-PC | |
| 5C01 | 1 | 5547137500 | CHASSIS | |
| 5C01M | 19 | 7033160652 | SCREW BRB M3.0x06 S-ZN-CC | |
| 5H01 | 3 | 5545309600 | HEAT SINK | |
| 5H01M | 21 | 7033161452 | SCREW BRB M3.0x10 S-ZN-CC | |
| 5L01 | 1 | 5547137900 | FRAME-L | |
| 5L01M | 3 | 7190550003 | SCREW ISO PPW ZN-PC (BLK) | |
| 5L01T | 8 | 7033160652 | SCREW BRB M3.0x06 S-ZN-CC | |
| 5R01 | 1 | 5547138000 | FRAME-R | |
| 5R01M | 3 | 7190550003 | SCREW ISO PPW ZN-PC (BLK) | |
| 5R01T | 8 | 7033160652 | SCREW BRB M3.0x06 S-ZN-CC | |
| 5S01 | 2 | 5547137800 | HEAT SINK BRACKET | |
| 5S01M | 6 | 7033251652 | SCREW BRB M4.0x12 S-ZN-CC | |
| 5T01 | 1 | 5541003200 | TOP COVER | |
| 5T02 | 1 | 5547137600 | TRS. BRACKET | |
| 5T03 | 3 | 5540100200 | WIRE CLAMP, WITH TUBE | |
| 5T03M | 3 | 7033161652 | SCREW BRB M3.0x12 S-ZN-CC | |
| 6B01 | 1 | 5547501200 | BUSHING POWER CORD | |
| 6C01 | 4 | 5547802120 | FOOT | |
| 6C01M | 4 | 7000305022 | SCREW BTBW M3.0x10 S-ZN-CC | |
| 6F01 | 1 | 5541215000 | FRONT PANEL | |
| 6F01M | 8 | 7033161156 | SCREW BRB M3.0x08 S-PC | |
| 6F02 | 1 | 5542226100 | POWER BEZEL | |
| 6F02M | 1 | 7033160652 | SCREW BRB M3.0x06 S-ZN-CC | |
| 6L01 | 2 | 5547530460 | PCB SUPPORT | |
| 6P01 | 2 | 5547530460 | PCB SUPPORT | |
| 6P02 | 2 | 5547530460 | PCB SUPPORT | |
| 6P03 | 2 | 5547530460 | PCB SUPPORT | |
| 6S01 | 1 | 5547533100 | POWER SW. SHIELDER | |
| S501M | 2 | 7001170612 | SCREW ISO PP M3.0x06 S-ZN-CC | |
| T501 | 3 | 5561320900 | POWER TRANSFORMER | |
| T501M | 12 | 7190550003 | SCREW ISO PPW ZN-PC (BLK) | |
| U501 | 1 | 5556702121 | POWER CORD W/PLUG BLK SP-12 | A1 |
| U501 | 1 | 5556702131 | POWER CORD W/PLUG BLK PL-21 | C |
| | 1 | 5090506007 | PCB BLOCK | |
| | 1 | 5090406067 | MAIN PCB ASS'Y | |
| | 3 | 5090906158 | MAIN AMP. PCB BLOCK | |
| 5201 | 1 | 5545309700 | HEAT SINK-P | |
| B401 | 1 | 5553135700 | MAIN AMP. PCB (305x95) | |
| B401M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| C401,C402 | 2 | 5213222091 | CAP. EL. | 22UFM +/-20% 16V |
| C403,C404 | 2 | 5247122191 | CAP. EL. | 220PFK +/-10% 50V |
| C405-C408 | 4 | 5213222091 | CAP. EL. | 22UFM +/-20% 16V |
| C411,C412 | 2 | 5247033091 | CAP. CERAMIC | 33PFJ +/- 5% 50V |
| C413,C414 | 2 | 5247106091 | CAP. CERAMIC | 6PFD +/- 5% 50V |
| C415,C416 | 2 | 5213322191 | CAP. EL. | 220UFM +/-20% 16V |
| C417,C418 | 2 | 5213601091 | CAP. EL. | 1UFM +/-20% 50V |
| C419,C420 | 2 | 5222110491 | CAP. POLYESTER | 0.10MFJ +/-20% 50V |
| C423-C428 | 6 | 5222110491 | CAP. POLYESTER | 0.10MFJ +/-20% 50V |
| C501,C502 | 2 | 5210308100 | CAP. EL. 25x50 | 6800UFM +/-20% 50V |
| C503 | 1 | 5272222301 | CAP. METALLIZED P.E P=10 | 22000PFK +/-10% 250V |
| D401-D404 | 4 | 6613003030 | DIODE SWITCHING ITT | 1N4148 |
| D405,D406 | 2 | 6615006242 | DIODE SWITCHING HIT | HZ15-2-TA |
| D407,D408 | 2 | 6613003030 | DIODE SWITCHING ITT | 1N4148 |
| D409,D410 | 2 | 6615019740 | DIODE ZENER HIT | HZ2C2-TA |
| D411-D414 | 4 | 6613007141 | DIODE SWITCHING HIT | 1SS81 200V 1A T=52mm .1 |
| D415-D418 | 4 | 6613003030 | DIODE SWITCHING ITT | 1N4148 |
| D501-D504 | 4 | 6611000800 | DIODE RECTIFIER GIT | 1N5401 100V 3.0A G |
| F501,F502 | 2 | 5554307501 | FUSE UL/CSA 5.2 x 20 5MT5 | 125V 5A MEDIUM BLOW A1 |
| F501,F502 | 2 | 5554307500 | FUSE UL/CSA 5.2 x 20 5ST5 | 250V 5A SEMKO C |
| L401,L402 | 2 | 5562000800 | COIL SPRING | |
| P410 | 1 | 5556103308 | CONNECTOR | |
| P411 | 1 | 5556102003 | 3P MALE WAFER | |
| Q401,Q402 | 2 | 6621034501 | TR NPN HF | 2SC3067G VCEO=120V IC=50mA |
| Q403,Q404 | 2 | 6623002050 | TR PNP HF | 2SA1015-Y TPE2 TAPING |
| Q405,Q406 | 2 | 6621016701 | TR NPN HF | 2SC2240-GR LOW NOISE |
| Q407,Q408 | 2 | 6621015332 | TR NPN HF | 2SA1815-Y TPE2 |
| Q409,Q410 | 2 | 6623005000 | TR PNP HF | 2SA970-GR |
| Q411 | 1 | 6623003200 | TR PNP HF | 2SA1380D/E |
| Q411H | 1 | 5545306910 | HEAT SINK (S) | L=21 |
| Q411M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q412 | 1 | 6623003200 | TR PNP HF | 2SA1380D/E |
| Q412H | 1 | 5545306910 | HEAT SINK (S) | L=21 |
| Q412M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q413,Q414 | 2 | 6621034600 | TR NPN HF | 2SC3423-Y PC=1.2W HFE=120-24 |
| Q415 | 1 | 6621016900 | TR NPN HF | 2SC3502D/E W/IS-126 |
| Q415H | 1 | 5545306910 | HEAT SINK (S) | L=126 |
| Q415M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q416 | 1 | 6621016900 | TR NPN HF | 2SC3502D/E W/IS-126 |
| Q416H | 1 | 5545306910 | HEAT SINK (S) | L=126 |
| Q416M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | C RUD 3008 TS ZN-CC |
| Q417 | 1 | 6621035000 | TR NPN HF | 2SC2344-E M:IS-313A B:M |
| Q417M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q418 | 1 | 6621035000 | TR NPN HF | 2SC2344-E M:IS-313A B:M |
| Q418M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |

| SYMBOL NO. | Q'TY | PARTS NO. | DESCRIPTION | SPECIFICATION |
|---|---|---|---|---|
| Q419 | 1 | 6623011600 | TR PNP HF | 2SA1011-E M:IS-313A B:M |
| Q419M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q410 | 1 | 6623011600 | TR PNP HF | 2SA1011-E M:IS-313A B:M |
| Q420M | 1 | 7033161152 | SCREW BRB M3.0x08 S-ZN-CC | |
| Q421 | 1 | 6622003100 | TR PNP LF | MJ15022 |
| Q421N | 2 | 7076170012 | NUT ISO N3.0(2.4H) S-ZN-CC | |
| Q421P | 2 | 7098160002 | SPRING WASHER SW3 S-ZN-CC | D3.1xD5.9x0.7T |
| Q421S | 2 | 7006171612 | SCREW ISO PB M3x12 S-ZN-CC | |
| Q421T | 2 | 7101200302 | WASHER TOOTH LOCK-EXT M3.0 | M3.0 S-ZN-CC |
| Q421W | 2 | 5547528700 | TRANSISTOR WASHER | |
| Q422 | 1 | 6622003100 | TR PNP LF | MJ15022 |
| Q422N | 2 | 7076170012 | NUT ISO N3.0(2.4H) S-ZN-CC | |
| Q422P | 2 | 7098160002 | SPRING WASHER SW3 S-ZN-CC | D3.1xD5.9x0.7T |
| Q422S | 2 | 7006171612 | SCREW ISO PB M3x12 S-ZN-CC | |
| Q422T | 2 | 7101200302 | WASHER TOOTH LOCK-EXT M3.0 | M3.0 S-ZN-CC |
| Q422W | 2 | 5547528700 | TRANSISTOR WASHER | |
| Q423 | 1 | 6624002000 | TR PNP LF | MJ15023 |
| Q423N | 2 | 7076170012 | NUT ISO N3.0(2.4H) S-ZN-CC | |
| Q423P | 2 | 7098160002 | SPRING WASHER SW3 S-ZN-CC | D3.1xD5.9x0.7T |
| Q423S | 2 | 7006171612 | SCREW ISO PB M3x12 S-ZN-CC | |
| Q423T | 2 | 7101200302 | WASHER TOOTH LOCK-EXT M3.0 | M3.0 S-ZN-CC |
| Q423W | 2 | 5547528700 | TRANSISTOR WASHER | |
| Q424 | 1 | 6624002000 | TR PNP LF | MJ15023 |
| Q424N | 2 | 7076170012 | NUT ISO N3.0(2.4H) S-ZN-CC | |
| Q424P | 2 | 7098160002 | SPRING WASHER SW3 S-ZN-CC | D3.1xD5.9x0.7T |
| Q424S | 2 | 7006171612 | SCREW ISO PB M3x12 S-ZN-CC | |
| Q424T | 2 | 7101200302 | WASHER TOOTH LOCK-EXT M3.0 | M3.0 S-ZN-CC |
| Q424W | 2 | 5547528700 | TRANSISTOR WASHER | |
| R401,R402 | 2 | 5142122290 | RES. CARBON FILM | 2K2 1/6W |
| R403,R404 | 2 | 5142122390 | RES. CARBON FILM | 22K 1/6W |
| R405,R406 | 2 | 5142147190 | RES. CARBON FILM | 470 1/6W |
| R407,R408 | 2 | 5142115390 | RES. CARBON FILM | 15K 1/6W |
| R409,R410 | 2 | 5142110290 | RES. CARBON FILM | 1K 1/6W |
| R413-R416 | 4 | 5142118290 | RES. CARBON FILM | 1K8 1/6W |
| R417,R418 | 2 | 5142110290 | RES. CARBON FILM | 1K 1/6W |
| R419,R420 | 2 | 5142115390 | RES. CARBON FILM | 15K 1/6W |
| R421-R424 | 4 | 5142110190 | RES. CARBON FILM | 100 1/6W |
| R425,R426 | 2 | 5142112290 | RES. CARBON FILM | 1K2 1/6W |
| R427,R428 | 2 | 5142147190 | RES. CARBON FILM | 470 1/6W |
| R429,R430 | 2 | 5142110390 | RES. CARBON FILM | 10K 1/6W |
| R431,R432 | 2 | 5142147190 | RES. CARBON FILM | 470 1/6W |
| R433,R434 | 2 | 5142122290 | RES. CARBON FILM | 2K2 1/6W |
| R437,R438 | 2 | 5142168290 | RES. CARBON FILM | 6K8 1/6W |
| R439,R440 | 2 | 5142147290 | RES. CARBON FILM | 4K7 1/6W |
| R441,R442 | 2 | 5133839096 | RES. FUSEABLE | 39 1/4W |
| R443,R444 | 2 | 5142122290 | RES. CARBON FILM | 2K2 1/6W |
| R445,R446 | 2 | 5142168190 | RES. CARBON FILM | 680 1/6W |
| R449,R450 | 2 | 5133833096 | RES. FUSEABLE | 33 1/4W |
| R453,R454 | 2 | 5142133190 | RES. CARBON FILM | 330 1/6W |
| R455-R458 | 4 | 5136003200 | RES. METAL PLATE CEMENT | 0.22 5W |
| R459,R460 | 2 | 5130339903 | RES. METAL OXIDE FILM MINI | 3.9 1W |
| R461,R462 | 2 | 5130310003 | RES. METAL OXIDE FILM MINI | 10 1W |
| R463 | 1 | 5142168290 | RES. CARBON FILM | 6K8 1/6W |
| R464,R465 | 2 | 5142139090 | RES. CARBON FILM | 39 1/6W |
| VR447,448 | 2 | 5162160420 | RES. VR PN06FB221AR | 220 OHM F5x5 |
| W501-W504 | 4 | 5547032210 | FUSE CLIP (5.2) | |
| | 3 | 5090906159 | SPEAKER TERMINAL PCB BLOCK | |
| C445,C446 | 2 | 5231810300 | CAP. CERAMIC | .01uFZ Z 50V |
| W403 | 1 | 5556205420 | SPEAKER TERMINAL | A1 |
| W403 | 1 | 5556205420 | SPEAKER TERMINAL | C |
| | 3 | 5090906161 | IN/OUT JACK PCB BLOCK | |
| C433 | 1 | 5213322091 | CAP. EL. | 22UFM +/-20% 16V |
| C603-C606 | 4 | 5247068091 | CAP. CERAMIC CC45 | 68PFJ +/- 5% 50V |
| C613,C614 | 2 | 5236110491 | CAP. POLYESTER | 0.1UFK +/-10% 50V |
| C615,C616 | 2 | 5213447091 | CAP. EL. | 47UFM +/-20% 25V |
| C617,C618 | 2 | 5213222091 | CAP. EL. | 22UFM +/-20% 16V |
| D607,D608 | 2 | 6615019043 | DIODE ZENER | HZ18-2-TA |
| Q601 | 1 | 6644066700 | IC LINEAR | JRC2068 |
| Q604 | 1 | 6621015332 | TR. NPN HF | 2SC1815-Y TPE2 |
| Q605 | 1 | 6623002050 | TR. PNP HF | 2SA1015-Y TPE2 TAPING |
| R601,R602 | 2 | 5142110290 | RES. CARBON FILM | 1K 1/6W |
| R605-R608 | 4 | 5142110490 | RES. CARBON FILM | 100K 1/6W |
| R609,R610 | 2 | 5142110290 | RES. CARBON FILM | 1K 1/6W |
| R616,R617 | 2 | 5142110390 | RES. CARBON FILM | 10K 1/6W |
| R619,R620 | 2 | 5133810103 | RES. FUSIBLE | 100 1/4W |
| S401,S402 | 2 | 5554439900 | SLIDE SWITCH | |
| VR601,602 | 2 | 5169010532 | VR. | 20KB TT RK09K1130008 |
| W601,W602 | 2 | 5556207600 | 2P JACK-RCA | |
| | 1 | 5090406068 | POWER SWITCH PCB ASS'Y | |
| | 1 | 5090906162 | POWER SWITCH PCB BLOCK | |
| B501 | 1 | 5553135600 | POWER SWITCH PCB (69x95) | |
| C504 | 1 | 5230102701 | CAP. CERAMIC | 4700PFM +/-20% 400V |
| S501 | 1 | 5554440000 | POWER SWITCH | |
| | 1 | 5090906163 | POWER LED PCB BLOCK | |
| D505 | 1 | 6611007230 | DIODE RECTIFIER | 1N4002 100V 1A T=26MM |
| D506 | 1 | 6618017300 | DIODE LED | 2MM GREEN |
| R501 | 1 | 5142147290 | RES. CARBON FILM | 4K7 1/6W |

# PACKING DIAGRAM




| ITEM | PARTS NO. | PARTS NAME | Q'TY |
|---|---|---|---|
| 1 | 9520910155 | EPS PAD FRONT | 1 |
| 2 | 6520910255 | EPS PAD REAR | 1 |
| 3 | 9530680155 | EPE BAG | 1 |
| 4 | 5535122552 | OWNER'S MANUAL | 1 |
| 5 | 9510910155 | INNER CARTON | 1 |

NOTES:

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